TRENDS IN ECOLOGY AND EVOLUTION REFERENCE EDITION

Volume 2 1987

CONTENTS

January

page

News

Colourful and highly structured microbial ecosystems, *Jan C. Gottschal* 1

The 'handicap principle' works without Fisher, *Andrew Pomiankowski* 2

Bioenergetics: linking ecology, biochemistry and evolutionary theory, *Colin R. Townsend* 3

Conservation 2100, *Joshua Ginsberg* 5

Sociality and sex ratios in spiders, *Mark A. Elgar* and *H.C.J. Godfray* 6

Reviews

Speciation by reinforcement, *Roger Butlin* 8

Plumage variability, status signalling and individual recognition in avian flocks, *D. Philip Whitfield* 13

Direct effects of increasing atmospheric CO_2 on plants and ecosystems, *Boyd R. Strain* 18

Commentary

The population biology of transposable elements, *Brian Charlesworth* 21

Do plants need niches? Some recent developments in plant community ecology, *Jonathan Silvertown* and *Richard Law* 24

Book Reviews

Evolving Hierarchical Systems (Stanley N. Salthe) and A Hierarchical Concept of Ecosystems (R.V. O'Neill, D.L. DeAngelis, J.B. Waide and T.F.H. Allen), *Brian A. Maurer* 26

Species and Speciation (E.S. Vrba, ed.), *Mark Ridley* 27

February

News

On butterflies and ants: when to be a friend, *Catherine M. Bristow* 29

The control of rabies, *Brian D. Perry* 30

Predation and group living, *Alastair J. Inman* and *John Krebs* 31

Habitat selection in migrant birds: seductive fruits, *Charles F. Leck* 33

Colonial information centres, *Mark Elgar* and *Paul Harvey* 34

Reviews

The heritability of fitness: bad news for 'good genes'? *J.S. Jones* 35

The impact of prehistoric agriculture and land occupation on natural vegetation, *Hazel R. Delcourt* 39

Allozymes and fitness: evolution of a problem, *Walter F. Eanes* 44

Commentary

Ecological research in Nicaragua, *Alison G. Power* 48

Professional ecologists and the education of young children, *Peter Feinsinger* 51

Book Reviews

Measuring Behaviour: an Introductory Guide (Paul Martin and Patrick Bateson), *Peter K. McGregor* 52

Pesticide Resistance: Strategies and Tactics for Management (Committee on Strategies for the Management of Pesticide Resistant Pest Populations, ed.), *Kevin C. Brown* 53

Population Biology and Evolution of Clonal Organisms (Jeremy B. C. Jackson, Leo W. Buss and Robert E. Cook, eds), *Stephen Waite* 54

March

News
Populations of small mammals cycle – unless they don't, *Ilkka Hanski* 55
The lions share, *Mark A. Elgar* and *Paul H. Harvey* 57
Acid rain: never pure and rarely simple, *Mike Ashmore* and *Andrew Tickle* 58
Complex life cycles made simple? *P. Calow* 60

Reviews
Life in the maelstrom: the biomechanics of wave-swept rocky shores, *Mark W. Denny* 61
Neotropical savannas: their flora and vegetation, *Otto Huber* 67
The organization of working teams in social insects, *Nigel R. Franks* 72

Letters
The density dependence debate, *Adam Lomnicki, D.R. Strong, Pieter J. den Boer, M.P. Hassell* and *M.W. Sabelis* 76

Commentary
Sizing up size ratios, *Erick Greene* 79

Book Reviews
The Blind Watchmaker (Richard Dawkins), *Michael Ruse* 81
Primate Biology (Vols 1–3) (J.G. Else and P.C. Lee, eds), *S.K. Bearder* 82

April

News
Sexual feeding in fruitflies, *C.P. Kyriacou* 85
Paleoenvironmental shift in maritime Canada parallels Europe, *Dorothy M. Peteet* 86
Spotted hyaenas: the importance of being dominant, *Kelly J. Stewart* 88

Reviews
Recent developments in bryophyte population ecology, *H.J. During* and *B.F. van Tooren* 89
Bird song, sexual selection and female choice, *Clive K. Catchpole* 94
The ecology of amphicarpic plants, *Gregory Paul Cheplick* 97

Commentary
Seals and fisheries: a case for predator control? *J.A. Gulland* 102
Diffuse competition in plant communities, *Jonathan Mitchley* 104
Determining the effects of introduced species, *Stuart L. Pimm* 106

Book Reviews
The Background of Ecology: Concept and Theory (Robert P. McIntosh), *Michael J. Hutchings* 108
Ecology (Michael Begon, John L. Harper and Colin R. Townsend), *John Jaenike* 109
Instrumentation for Environmental Physiology (B. Marshall and F.I. Woodward, eds), *Christopher B. Field* 109
The Botany of Mangroves (P.B. Tomlinson), *J.E. Ong* 111
Sulfur Dioxide and Vegetation: Physiology, Ecology and Policy Issues (W.E. Winner, H.A. Mooney and R.E. Goldstein, eds), *Folke O. Andersson* 111

May

News
The chivalrous pigeon: pigeons help their mates to obtain resources, *Austin L. Hughes* 113
Explaining species size ratios in nature, *Mark D. Pagel* and *Julee A. Greenough* 114
Group living, natal philopatry, and Lindström's lottery: it's all in the family, *Marc Bekoff* 115

Reviews
Industrial melanism: do we have the answers? *Paul M. Brakefield* 117
Effects of plant species on each other's pollination: is community structure influenced? *Peter Feinsinger* 123
Evolutionary and ecological parallels between ants and fungi, *Alan D.M. Rayner* and *Nigel R. Franks* 127

Commentary
Why the Club of Earth? *Paul R. Ehrlich* 133

Monarch butterfly migration in North America: controversy and conservation, *Stephen B. Malcolm* 135

Population biology and the management of fisheries, *D.H. Cushing* 138

Book Reviews
Modelling in Behavioural Ecology: An Introductory Text (Dennis Lendrem), *Thomas Caraco* 140

Predator–Prey Relationships: Perspectives and Approaches from the Study of Lower Vertebrates (Martin E. Feder and George V. Lauder, eds), *Peter A. Abrams* 140

The Evolutionary Ecology of Ant–Plant Mutualisms (Andrew J. Beattie), *Ruth Kiew* 141

Books Received 142

June

News
Conservation action for gazelles: an urgent need, *Oliver A. Ryder* 143

What's special about desert ecology? *Andrew P. Dobson* and *Michael J. Crawley* 145

Recall to the wild: wolf reintroduction in Europe and North America, *David S. Wilcove* 146

Reviews
Animal decision-making and the 'Concorde Fallacy', *E. Curio* 148

The history of the biosphere: equilibrium and non-equilibrium models of global diversity, *Michael J. Benton* 153

Successions of sheathing mycorrhizal fungi, *F.T. Last, J. Dighton* and *P.A. Mason* 157

Molecular palaeontology: new life for old molecules, *Gordon B. Curry* 161

Letters to the Editor
Small mammal cycles, *Søren Bondrup-Nielsen* 165

Reply from *I. Hanski* 166

Commentary
Benevolent herbivores? *M.J. Crawley* 167

Book Reviews
Wildlife Conservation Evaluation (Michael B. Usher, ed.), *Michael E. Gilpin* 169

Conservation Biology: The Science of Scarcity and Diversity (Michael E. Soulé, ed.), *Daniel Simberloff* 169

Ecological Aspects of Social Evolution: Birds and Mammals (Daniel I. Rubenstein and Richard W. Wrangham, eds), *N.B. Davies* 170

The History of the Countryside (Oliver Rackham), *Richard T.T. Forman* 171

Evolutionary Relationships among Rodents: A Multidisciplinary Analysis (W. Patrick Luckett and Jean-Louis Hartenberger, eds), *Michael A. Mares* 173

July: Hawaiian Special Issue

Reviews
Hawaiian evolutionary biology: an introduction, *Chris Simon* 175

Ecology, biogeography and evolution of corals in Hawaii, *Paul L. Jokiel* 179

Endemism and evolution in Hawaiian marine invertebrates, *E. Alison Kay and Stephen R. Palumbi* 183

Mid-ocean isolation and the evolution of Hawaiian reef fishes, *Thomas F. Hourigan and Ernst S. Reese* 187

Beggar's ticks and tarweeds: masters of adaptive radiation, *Gerald D. Carr* 192

Evolutionary ecology and radiation of Hawaiian passerine birds, *Leonard A. Freed, Sheila Conant* and *Robert C. Fleischer* 196

Tracing ancestry with chromosomal sequences, *Hampton L. Carson* 203

Sexual selection and speciation: issues raised by Hawaiian drosophilids, *Kenneth Y. Kaneshiro* and *Christine R. B. Boake* 207

Molecular evolution in Hawaiian drosophilids, *Rob DeSalle* and *John A. Hunt* 212

Forest dynamics in Hawaii, *Dieter Mueller-Dombois* 216

Evolutionary ecology of aeolian and subterranean habitats in Hawaii, *Francis G. Howarth* 220

Introduced species in Hawaii: biological effects and opportunities for ecological research, *Peter M. Vitousek, Lloyd L. Loope* and *Charles P. Stone* 224

Book Reviews

A Field Guide to the Birds of Hawaii and the Tropical Pacific (H. Douglas Pratt, Phillip L. Bruner and Delwyn G. Berrett), *Sheila Conant* 228

Ecology and Evolution of Darwin's Finches (Peter R. Grant), *Stuart L. Pimm* 228

August

News

Testing parent–offspring conflicts in insect parasitoids, *Anthony R. Ives* 231

Daphnia population dynamics in theory and practice, *John H. Lawton* 233

Towards a coherent ecology, *Andrew M. Sugden* 235

The European Forest Ecosystem Research Network (FERN), *Ph. Bourdeau* 236

Reviews

Spatial scale and the determinants of plant species richness, *Michael Auerbach* and *Avi Shmida* 238

Complex sex-linked translocation heterozygosity: its genetics and biological significance, *David M. Rowell* 242

Response of vegetation to climatic changes of different duration in the late Neogene, *Cathy W. Barnosky* 247

Letters to the Editor

Dominance cannot be inherited, *Cyrille Barrette* 251

Reply from *Kelly Stewart* 251

Commentary

Plant ecology – trends and traits, *F.I. Woodward* 252

Book Reviews

The Ancestry of the Vertebrates (R.P.S. Jefferies), *Pat Willmer* 255

The Butterflies of North America: A Natural History and Field Guide (James A. Scott), *James Mallet* 256

The Dynamics of Extinction (David K. Elliott, ed.) *Mark L. Shaffer* 257

Evolutionary Biology (2nd edn) (Douglas J. Futuyma), *Linda Partridge* 258

September

News

Weapons and fighting in fig wasps, *Steven A. Frank* 259

Biparental defence in a subsocial spider mite, *N. Yamamura* 261

What is conservation biology? *J. Ginsberg* 262

Reviews

Structure and production in neotropical mangroves, *Gilberto Rodriguez* 264

Sperm competition in birds, *Tim Birkhead* 268

Kin recognition in social bees, *Robert E. Page* and *Michael D. Breed* 272

Perspectives

Tectonic ecology, *R. Muir Wood* 276

Commentary

Social dynamics of mammals: reproductive success, kinship and individual fitness, *Kenneth B. Armitage* 279

Book Reviews

Ecology of Biological Invasions (R.H. Groves and J.J. Burdon, eds) and Ecology of Biological Invasions of North America and Hawaii (H.A. Mooney and J.A. Drake, eds) *Mark Westoby* 284

Acid Deposition and the Acidification of Soils and Waters (J.O. Reuss and D.W. Johnson), *Hans M. Seip* 285

Human Ecology: A Theoretical Essay (Amos H. Hawley), *Monique Borgerhoff Mulder* 286

Spider Mites: Their Biology, Natural Enemies and Control (W. Helle and M.W. Sabelis, eds), *G.W. Krantz* 287

October

News

Fertilization in ferns, *Kent E. Holsinger* 289

Seed dispersal by ants, *Andrew Bennett* and *John Krebs* 291

The fourth Chemical Ecology Meeting, *Stephen Malcolm* 292

The snake that ate Guam, *Stuart L. Pimm* 293

Reviews

Sex-biased dispersal and inbreeding avoidance in birds and mammals, *Anne E. Pusey* 295

The early evolution of the angiosperm flower, *Peter K. Endress* 300

Letter to the Editor

Plant ecology defended, *Michael J. Crawley* 304

Perspectives

The living cell as an ecosystem: hierarchical analogy and symmetry, *G. Rickey Welch* 305

Commentary

A new approach to sympatric speciation, *Roger Butlin* 310

The decline of the trophic level concept, *Steve Cousins* 312

Book Reviews

The Behaviour of Teleost Fishes (T.J. Pitcher, ed.), *T.M. Caro* 316

Natural Management of Tropical Moist Forests (F. Mergen and J.R. Vincent, eds), *Francis E. Putz* 317

The Sociobiology of Ethnocentrism (V. Reynolds *et al.*, eds), *Martin Daly* 318

Books Received 319

November

News

Soil erosion as a landscape ecology phenomenon, *Mark Westoby* 321

The evolution of concealed ovulation in vervet monkeys, *Saroj Datta* 323

The parasitic strategies of a cuckoo bee, *Nigel R. Franks* 324

Humic substances: keystones in the carbon cycle, *F.H. Frimmel* and *R.F. Christman* 326

Reviews

Molecular evolution of ubiquitin genes, *Paul M. Sharp* and *Wen- Hsiung Li* 328

Monitoring the environment by remote sensing, *Walter E. Westman* 333

Kin conflict in seed plants, *David Haig* 337

Perspectives

Traditional shifting cultivation and the tropical forest system, *Michael J. Eden* 340

Commentary

Africa's elephants and rhinos: flagships in crisis, *David Western* 343

Book Reviews

Animal Behaviour (Mark Ridley) and An Introduction to Behavioural Ecology (2nd edn) (J.R. Krebs and N.B. Davies), *Daniel I. Rubenstein* 346

Introduction to Plant Population Ecology (2nd edn) (Jonathan Silvertown), *Paulette Bierzychudek* 348

Books Received 347

December

News

Death and reproduction in mantids, *C.P. Kyriacou* 349

Plankton that don't obey the rules, *Ilkka Hanski* 350

Basel and Bozeman: a glance at evolutionary biology in 1987, *Andrew M. Sugden* 352

The risks of sex: why some plants say no, *Andrew T.D. Bennett* and *Mark A. Elgar* 353

Reviews

Heavy metal tolerance in plants: a model evolutionary system, *Mark R. Macnair* 354

Colonization and succession in deep-sea ecosystems, *Craig R. Smith* and *Robert R. Hessler* 359

The origin and rarity of botanical carnivory, *David H. Benzing* 364

Perspectives

Diversity: cultural and biological, *Madhav Gadgil* 369

Commentary

What else can green monkeys tell us about AIDS? *E.R. Carper* and *A.P. Dobson* 374

Interspecific competition and the structure of bird guilds in boreal Europe: the importance of doing fieldwork in the right season, *Lauri Oksanen* 376

Book Reviews

The Handbook of Ecological Monitoring (R. Clarke, ed.) and Remote Sensing and Tropical Land Management (M.J. Eden and J.T. Parry, eds), *Jonathan T.C. Budd* 379

Phytoplankton Ecology (G.P. Harris), *Susan S. Kilham* 380